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PRC

PRELIMINARY ASSESSMENT/ VISUAL SITE INSPECTION

WELLMAN THERMAL SYSTEMS, INC. SHELBYVILLE, INDIANA IND096173984

FINAL REPORT

Prepared for

U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, DC 20460

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CONTENTS

FIGURES

TABLES

EXECUTIVE SUMMARY

PRC Environmental Management, Inc., performed a preliminary assessment and visual site inspection to identify and assess the existence and likelihood of releases from solid waste management units (SWMU) and other areas of concern (AOC) at the Wellman Thermal Systems, Inc. (Wellman), facility in Shelbyville, Shelby County, Indiana. A separate facility, AnaMag, is located on the property near Wellman, but the PA/VSI does not cover AnaMag. This summary highlights the results of the PA/VSI and the potential for releases of hazardous wastes or hazardous constituents from SWMUs and AOCs identified. The term "the facility" always refers to Wellman. All U.S. EPA waste codes have been designated by Wellman.

In 1955, General Electric Company (GE) built an industrial heating facility at 1 Progress Road, Shelbyville, Indiana, and began manufacturing operations. In 1966, GE built a wire mill operation that it operated separately from the industrial heating business. GE sold the industrial heating business in 1979 to Wellman Engineering Corporation, Ltd., which began operating the business as Wellman Thermal Systems Corporation. GE retained ownership of all of the land and the wire mill operation, and issued a 25-year lease to Wellman for the portion of the land that contains the industrial heating business. GE continued operating the wire mill business until 1983, when it sold both the land and the wire mill operation to AnaMag. From 1983 to 1988, AnaMag operated the wire mill and continued to lease the land containing the industrial heating operation to Wellman on the original 25-year lease. In the fall of 1988, AnaMag filed for bankruptcy. On November 28, 1988, four managers of Wellman purchased the industrial heating business from Wellman Engineering Corporation, Ltd. According to the facility representative, the original 25-year lease is still in effect, and the present status of AnaMag is unknown.

From the start of operations, 1955, to the present, heating units have been built at the facility. One of GE's and Wellman's manufacturing processes included an electroplating department located in the facility from 1955 until 1981. The electroplating department generated waste hydrochloric acid (D002), waste nitric acid (D002), waste sulfuric acid (D002), waste chromic acid (D002), waste calcium chloride, waste nickel sulfate, waste nickel chloride, and waste alkaline cleaning solution, as liquid waste products. In Wellman's closure plan dated November 30, 1983, Wellman listed ferric chloride (F007) as a liquid waste from the electroplating department. However, in an August 3,

1993, letter from Wellman to PRC, Wellman listed ferrous chloride with no waste code as a liquid waste from the electroplating department. The facility representative is unsure which liquid waste, ferric chloride or ferrous chloride, was produced. From 1955 until 1981, this liquid waste was treated on site in a wastewater treatment plant. Both the electroplating department and the wastewater treatment plant were removed in 1981 by Wellman. Since 1955, the processes used to produce thermal heating units in addition to electroplating have included: metal cutting, which produces waste lubricating oil (nonhazardous); vapor degreasing of the parts, which produces spent trichlorethylene (TCE) (F001); and sealing of the heating units, which produces waste epoxy (nonhazardous) and spent methyl ethyl ketone (F003). Painting of the parts produces spent xylene (F005) from cleaning the painting machines, waste paint (nonhazardous), and waste paint filters (nonhazardous).

Wellman applied for interim status on November 6, 1980, as a hazardous waste storage facility. On October 8, 1982, Wellman requested withdrawal of its Part A application because it no longer needed to store wastes for greater than 90 days. Due to this request, the Indiana State Board of Health (ISBH) and U.S. Environmental Protection Agency (EPA) required closure of the hazardous waste storage area. On December 13, 1984, ISBH approved the closure, and on February 1, 1985, the EPA approved the closure. On June 18, 1987, Wellman submitted a subsequent notification of hazardous waste activity that changed the amount of hazardous waste it generated to less than 1,000 kilograms/month. Based on that notification, on July 16, 1987, EPA approved the change from generator to small quantity generator.

The Wellman facility occupies about 83 acres in an industrial, commercial, agricultural, and residential area. Wellman employs approximately 200 people working one shift.

The PA/VSI identified the following eight SWMUs and three AOCs at the facility:

Solid Waste Management Units

1. Hazardous Waste Storage Area
2. Waste Oil Storage Area
3. Spent TCE Satellite Accumulation Area (SAA)
4. Paint-Related Waste SAAs
5. Scrap Metal Storage Area
6. Nonhazardous Waste Storage Area

7. Aboveground Waste Oil Storage Tank
8. Former Wastewater Treatment Plant

Areas of Concern

1. Former Fuel Oil Underground Storage Tanks (UST)
2. Former Gasoline UST
3. Contaminated North Well

The potential for release from the Hazardous Waste Storage Area (SWMU 1) to on-site soils and groundwater is moderate. All the waste in SWMU 1 is contained in closed top 55-gallon drums and sits on a concrete pad with walls on three sides and a steel berm in the front of the unit. However, the concrete pad has approximately 1/2-inch-wide cracks that may allow a release to possibly migrate to the on-site soils and groundwater.

The potential for release to on-site soils from the Waste Oil Storage Area (SWMU 2) and the Aboveground Waste Oil Storage Tank (SWMU 7) is high. The potential for release to groundwater from SWMU 2 is moderate. The potential for release to groundwater from SWMU 7 is high. SWMU 2 is approximately a 40-foot by 15-foot building with a sloped floor and a closed off sump. However, SWMU 2 does not contain a berm, and there is a 1/2-inch gap between its walls and floor. A release that does not migrate to the sump would migrate outdoors. During the VSI, PRC noted extensive floor staining throughout SWMU 2. The Aboveground Waste Oil Storage Tank (SWMU 7) sits on the edge of a concrete pad with gravel and soil adjacent to the pad. SWMU 7 has no secondary containment, monitoring devices, or berm around the area. A release from SWMU 7 would probably migrate off the concrete pad, through the on-site soil, and into the groundwater. During the VSI, PRC noted staining on SWMU 7's concrete pad and in the adjacent gravel and soil.

The potential for release to groundwater and on-site soils from the Spent TCE SAA (SWMU 3); Paint-Related Waste SAAs (SWMU 4); the Scrap Metal Storage Area (SWMU 5); the Nonhazardous Waste Storage Area (SWMU 6); and the Former Wastewater Treatment Plant (SWMU 8) is low. SWMUs 3 and 4 are located indoors on a concrete floor. A release probably would not likely leave the building and migrate outdoors. SWMUs 5 and 6 manage inert, nonhazardous wastes on two separate concrete pads. A release from SWMUs 5 and 6 probably would not leave the concrete pads. When SWMU 8 was active, it was contained inside a cement building on a concrete pad. Untreated

wastewater was monitored and stored closed. A release would probably not have migrated away from the building and concrete pad.

The potential of a former release to on-site soils from the two 15,000-gallon USTs (AOC 1) leased and operated by Wellman; and one 750-gallon UST (AOC 2) owned and operated by Wellman is moderate to high. The potential of a former release to groundwater from Wellman's USTs is moderate. The USTs were located underground with no secondary containment or monitoring devices. AOC 1 was 33 years old when it was removed in 1988, and AOC 2 was 36 years old when it was removed in 1992. Wellman had no recorded observations from the removal, and no soil sampling was conducted around the USTs.

A release to groundwater and on-site soils occurred in the Contaminated North Well (AOC 3). According to the facility representative, in July 1991, the north well was tested and found to be contaminated with 8.48 parts per billion (ppb) of vinyl chloride and an unknown quantity of cis-1,2-dichloroethene. The south well was found to be clean of contaminants. Wellman removed the Contaminated North Well from service on July 15, 1991. Wellman documented this release and reported it to Indiana Department of Environmental Management in Wellman's quarterly report. Wellman did not discover the source of the contamination. Besides closing the north well, Wellman continues monitoring the south well. It also gave public notice to their employees, and it has continued development of an effective sampling plan for the north well. Between 1991 and 1993, Wellman installed about 30 monitoring wells to monitor any spread of contamination. The facility representative indicated that the monitoring wells showed no evidence of contamination.

The potential for release to the air from the Hazardous Waste Storage Area (SWMU 1) is low because the containers are closed. The potential for release to air from the Waste Oil Storage Area (SWMU 2), the Spent TCE SAA (SWMU 3), the Paint-Related Waste SAAs (SWMU 4), and the Former Wastewater Treatment Plant (SWMU 8) is low. SWMUs 2, 3, 4, and 8 are located indoors, minimizing potential release to the environment. The Scrap Metal Storage Area (SWMU 5) and the Nonhazardous Waste Storage Area (SWMU 6) have a low potential for release to air because wastes managed in SWMUs 5 and 6 are inert. The Aboveground Waste Oil Storage Tank (SWMU 7) is stored closed at all times so the potential for release is low. The former potential for release to air

from all the former underground storage tanks (AOCs 1 and 2) and the Contaminated North Well (AOC 3) on site was low because the AOCs were located underground.

The potential for release to surface water from SWMUs 1 through 8 is low. A release from any SWMU would have to migrate 3/4 mile to reach the nearest surface water, Lewis Creek or the Little Blue River. The potential for release to surface water from AOCs 1 through 3 would have been low because a release would have had to migrate 3/4 mile through the ground to reach the nearest surface water.

The facility is completely fenced. The nearest residence is about 1/4 mile east of the facility. The nearest surface water bodies, the Little Blue River Lewis Creek, are located 3/4 mile north and 3/4 mile southeast, respectively, of the facility. Another surface water body in the area is the Big Blue River, 1-1/2 miles north of the facility.

Groundwater is used as a source of drinking water on site. The City of Shelbyville draws groundwater from two municipal well fields west of the facility. The nearest well field to Wellman is about 8 miles to the west, downgradient of the facility. Wetlands ranging from 1 to 10 acres in size are located along the Big Blue River which is about 1-1/2 miles north of the facility and the Little Blue River which is located about 3/4 mile north of the facility. According to information obtained from the U.S. Geological Survey topographic map, and from the U.S. Fish and Wildlife Wetland map, no forest preserves, habitats of endangered species, or other sensitive environments are located within 2 miles of the facility.

PRC recommends that the cracks in the concrete pad at the Hazardous Waste Storage Area (SWMU 1) be repaired and the containers continue to be managed to minimize potential for a release. PRC recommends no further action for the Spent TCE SAA (SWMU3), the Paint-Related Waste SAAs (SWMU 4), the Scrap Metal Storage Area (SWMU 5), the Nonhazardous Waste Storage Area (SWMU 6), and the Former Wastewater Treatment Plant (SWMU 8). PRC recommends that the Waste Oil Storage Area (SWMU 2) and the Aboveground Waste Oil Storage Tank (SWMU 7) be cleaned and that soil sampling be conducted to determine possible soil contamination. PRC also recommends that monitoring devices be attached to SWMU 7 and a berm be built around the concrete pad that SWMU 7 sits on. PRC also recommends that either a berm be constructed around the

perimeter of the SWMU 2 building or the 1/2-inch gap between the wall and floor be filled in. PRC recommends that the soil area of former AOCs 1 and 2 be tested for possible soil contamination. PRC recommends continued testing for the Contaminated North Well (AOC 3) and development of a regular testing program of the Contaminated North Well, on-site monitoring wells, and the south well.

1.0 INTRODUCTION

PRC Environmental Management, Inc. (PRC), received Work Assignment No. R05032 from the U.S. Environmental Protection Agency (EPA) under Contract No. 68-W9-0006 (TES 9) to conduct preliminary assessments (PA) and visual site inspections (VSI) of hazardous waste treatment and storage facilities in Region 5.

As part of the EPA Region 5 Environmental Priorities Initiative, the RCRA and CERCLA programs are working together to identify and address RCRA facilities that have a high priority for corrective action using applicable RCRA and CERCLA authorities. The PA/VSI is the first step in the process of prioritizing facilities for corrective action. Through the PA/VSI process, enough information is obtained to characterize a facility's actual or potential releases to the environment from solid waste management units (SWMU) and areas of concern (AOC).

A SWMU is defined as any discernible unit at a RCRA facility in which solid wastes have been placed and from which hazardous constituents might migrate, regardless of whether the unit was intended to manage solid or hazardous waste.

The SWMU definition includes the following:

- RCRA-regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells
- Closed and abandoned units
- Recycling units, wastewater treatment units, and other units that EPA has usually exempted from standards applicable to hazardous waste management units
- Areas contaminated by routine and systematic releases of wastes or hazardous constituents. Such areas might include a wood preservative drippage area, a loading or unloading area, or an area where solvent used to wash large parts has continually dripped onto soils.

An AOC is defined as any area where a release of hazardous waste or constituents to the environment has occurred or is suspected to have occurred on a nonroutine and nonsystematic basis. This includes any area where a strong possibility exists that such a release might occur in the future.

The purpose of the PA is as follows:

- Identify SWMUs and AOCs at the facility
- Obtain information on the operational history of the facility
- Obtain information on releases from any units at the facility
- Identify data gaps and other informational needs to be filled during the VSI

The PA generally includes review of all relevant documents and files located at state offices and at the EPA Region 5 office in Chicago.

The purpose of the VSI is as follows:

- Identify SWMUs and AOCs not discovered during the PA
- Identify releases not discovered during the PA
- Provide a specific description of the environmental setting
- Provide information on release pathways and the potential for releases to each medium
- Confirm information obtained during the PA regarding operations, SWMUs, AOCs, and releases

The VSI includes interviewing appropriate facility staff; inspecting the entire facility to identify all SWMUs and AOCs; photographing all visible SWMUs; identifying evidence of releases; making a preliminary selection of potential sampling parameters and locations, if needed; and obtaining additional information necessary to complete the PA/VSI report.

This report documents the results of a PA/VSI of the Wellman Thermal Systems, Inc. (Wellman), facility (EPA Identification No. IND 096 173 984) in Shelbyville, Shelby County, Indiana. AnaMag, the other facility located on the property, is not included in this PA/VSI. AnaMag filed a separate

Part A permit application and has a different EPA identification number (IND 000 608 513). The PA for Wellman was completed on May 7, 1993. PRC gathered and reviewed information from the Indiana Department of Environmental Management (IDEM) and from EPA Region 5 RCRA files. The VSI was conducted on May 10, 1993. It included interviews with facility representatives and a walk-through inspection of the facility. PRC identified eight SWMUs and three AOCs at the facility.

The VSI is summarized and 12 inspection photographs are included in Appendix A. Fifteen photos were taken during the VSI but only 12 were relevant to the Wellman facility. Field notes from the VSI are included in Appendix B.

2.0 FACILITY DESCRIPTION

This section describes the facility's location; past and present operations; waste generating processes and waste management practices; history of documented releases; regulatory history; environmental setting; and receptors.

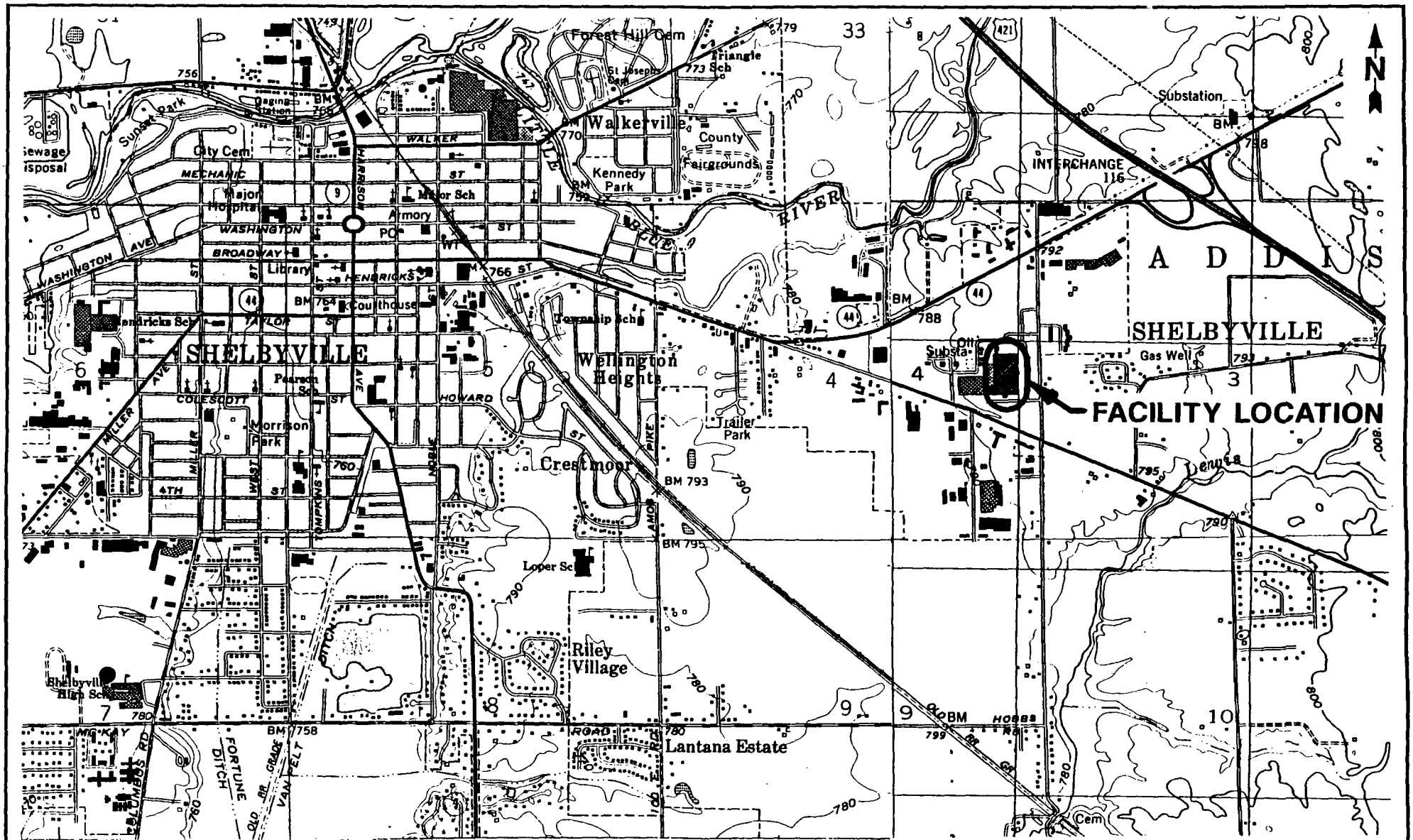
2.1 FACILITY LOCATION

The Wellman facility is located at 1 Progress Road in Shelbyville, Indiana (latitude 39° 31' 47.0"N and longitude 085° 44' 40.0"W). AnaMag, formerly an enamel wire business, is located adjacent to Wellman. Figure 1 shows the location of the facility in relation to the surrounding topographic features. The total complex, including AnaMag and Wellman, occupies about 83 acres in an industrial, residential, commercial, and agricultural area.

The facility is bordered on the north by State Highway 44 and retail businesses; on the west by AnaMag, undeveloped land; and retail businesses; on the south by light industry and retail businesses; and on the east by residences and farmland.

2.2 FACILITY OPERATIONS

In 1955, General Electric Company (GE) built an industrial heating facility and began manufacturing operations at this location. GE built a wire mill in 1966 and operated it separately from the industrial heating business. In 1979, Wellman Engineering Corporation, Ltd. bought the industrial heating business and began operating it as Wellman Thermal Systems Corporation, while GE retained ownership of all the land and the wire mill operation. Also in 1979, Wellman entered into a 25-year lease with GE for the land that contains Wellman's industrial heating business. GE continued operating the wire mill until 1983, when it sold all the land and its wire mill operation to AnaMag. From 1983 to 1988, AnaMag operated the wire mill and continued to lease the land containing the industrial heating operation to Wellman under the original 25-year lease. In the fall of 1988, AnaMag filed for bankruptcy. On November 28, 1988, four managers of Wellman purchased the industrial heating business from Wellman Engineering Corporation, Ltd. According to the facility



INDIANA

QUADRANGLE LOCATION

SCALE 1:24000

1 1/2 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

SCALE 1" = 2,000'

SOURCE: MODIFIED FROM USGS, SHELBYVILLE AND RAY'S CROSSING, INDIANA QUADRANGLES 1988

WELLMAN THERMAL SYSTEMS INCORPORATED
SHELBYVILLE, INDIANA

FIGURE 1
FACILITY LOCATION

PRC ENVIRONMENTAL MANAGEMENT, INC.

representative, Wellman's original 25-year lease for the land is still in effect. The present status of AnaMag is unknown (PRC 1993b).

Wellman's 250,000 square foot manufacturing facilities house overhead cranes, heavy and light machine shops, a tubular fabrication facility, a systems assembly area, a separate controls assembly area, a warehouse for inventory, and business offices. Wellman manufactures industrial electric heating elements and devices, large industrial furnaces, space heaters, heat transfer systems, and metal sheath heating units. Each heater is designed and produced to customer specifications. It takes approximately 2 to 12 months to completely produce a furnace. Various metals arrive at the facility in coils, sheets, tubing, or in powder form. These metals are cut and welded to fabricate the product. The cut pieces are vapor degreased with trichlorethylene (TCE) and then painted in a paint booth. After painting, the pieces are assembled. Some parts are run through a sealing machine that seals them together with epoxy. Plating of the parts was previously done on site, but according to the facility representative, the facility stopped plating in approximately 1981 and transferred all plating work to a local vendor. The plating facility required storage and disposition of various acids and chemicals. Wastewater from the plating lines was treated in an on-site wastewater treatment plant. Treatment consisted primarily of reducing the wastewater's pH. The facility had no other process information available about the plating operation and the wastewater treatment operation.

There are two main buildings presently in use by Wellman. Wellman has added six additions to the main buildings throughout the plant's history. Production takes place in the factory building which is divided into different process and assembly areas. There are five 20,000-gallon aboveground fuel oil tanks to the west of the factory building. An earthen dike with a secondary containment capacity of 42,000 gallons surrounds the tanks. There is also one 1,000-gallon steel Aboveground Waste Oil Storage Tank (SWMU 7) to the west of the factory building. Five underground storage tanks (USTs) were located on Wellman's leased property and operated by Wellman: two 15,000-gallon tanks, two 1,000-gallon tanks, and one 750-gallon tank (PRC 1993b). According to the facility representative, AnaMag leased the two 15,000-gallon fuel oil USTs to Wellman for fuel oil storage. Wellman owned and operated the remaining USTs: one 1,000-gallon UST for gasoline; one 1,000-gallon UST for diesel fuel; and one 750-gallon UST for gasoline. These five tanks were all removed. Additional information about these tanks is contained in Section 2.5.

A security fence surrounds the entire site. A guard house sits at the northeast corner of the fence but is presently not in use. The Hazardous Waste Storage Area (SWMU 1) and the Nonhazardous Waste Storage Area (SWMU 6) which are located just northwest of the Wellman facility, are surrounded by a separate chain-link fence.

2.3 WASTE GENERATION AND MANAGEMENT

This section describes waste generation and management at the Wellman facility. The facility's SWMUs are identified in Table 1. The facility layout, including SWMUs and AOCs, is shown in Figure 2. The facility's waste streams are summarized in Table 2. The processes that produce waste streams include metal cutting, vapor degreasing, electroplating, painting, and welding. Other processes are used at Wellman but they do not produce waste streams. All EPA waste codes listed in this report have been designated by Wellman. Wastes generated at the facility are discussed below. Waste generation rates are based on information provided at the time of the VSI. The facility representative was unable to provide information about waste generation and management during the period that GE operated the facility.

The manufacturing of a heating unit begins with various metals, including aluminum, steel, and brass, arriving at the plant as coils, sheets, tubing, or powder. These metals are cut and welded to form the parts for the heating units. The cutting process produces varying amounts of scrap metal that is accumulated in hoppers or drums. Since 1979, uncoated scrap metal has been transferred to the Scrap Metal Storage Area (SWMU 5) and picked up for recycling by Kroot Scrap of Columbia, Indiana. According to the facility representative, the amount of scrap metal produced annually is unknown.

If the scrap metal is coated with lubricating oil, it is first transferred to the Waste Oil Storage Area (SWMU 2) where it is placed in hoppers or drums with holes in the bottom. In SWMU 2, the waste oil drips off the scrap metal. The waste oil either accumulates in pans below the hopper or drains into a sump. The accumulated waste oil is transferred to the Aboveground Waste Oil Storage Tank (SWMU 7). Waste oil also is produced when the lubricating oil in various machines becomes unusable and is subsequently pumped into drums. The drummed waste oil is then pumped into the Aboveground Waste Oil Storage Tank (SWMU 7). Safety-Kleen of Indianapolis, Indiana, picks up

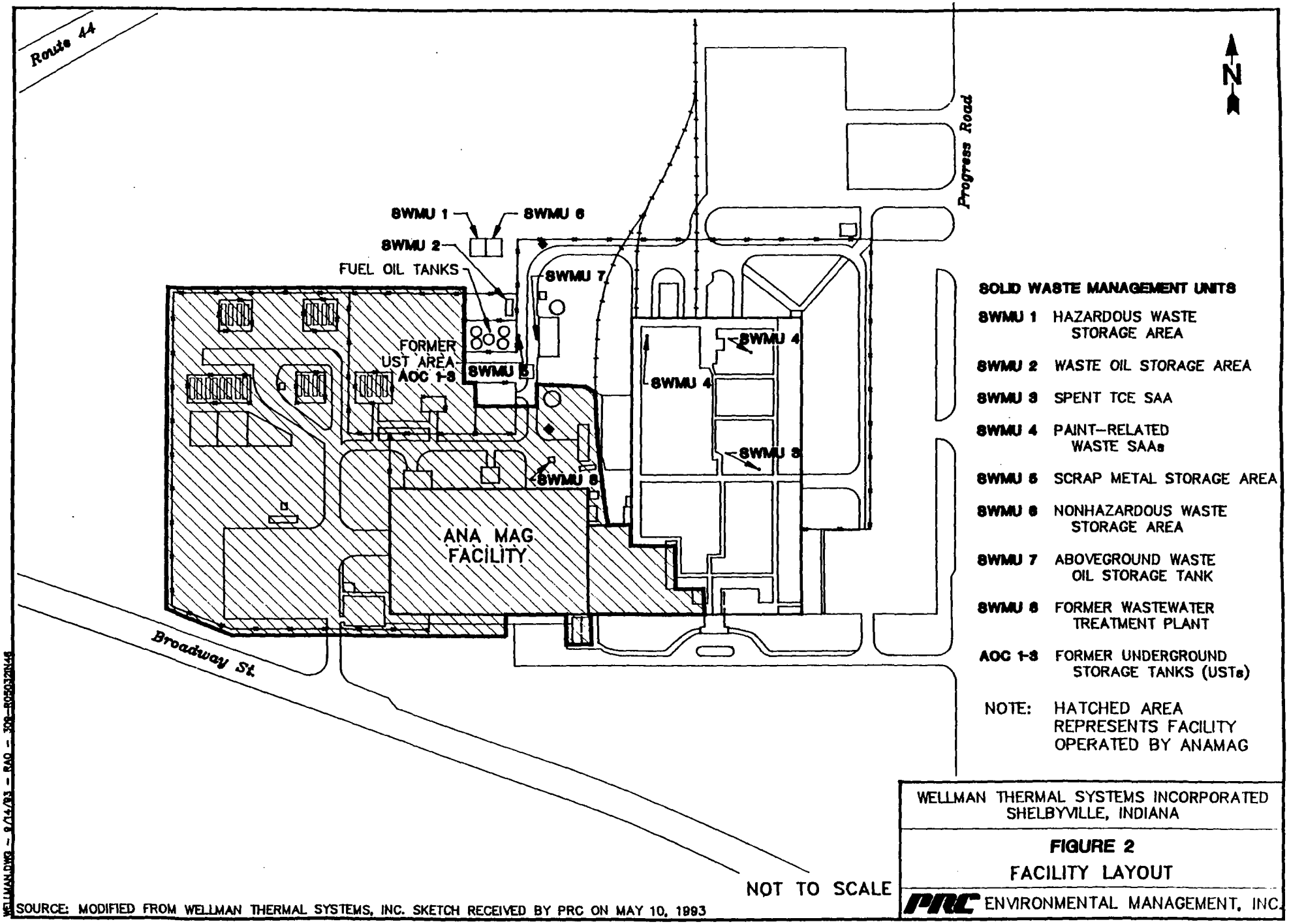
TABLE 1

SOLID WASTE MANAGEMENT UNITS

SWMU Number	SWMU Name	RCRA Hazardous Waste Management Unit[a]	Status
1	Hazardous Waste Storage Area	yes	Active for less than 90 days storage; Closure approved in 1984
2	Waste Oil Storage Area	no	Active; manages nonhazardous wastes
3	Spent TCE Satellite Accumulation Area (SAA)	no	Active; manages hazardous wastes
4	Paint-Related Waste SAAs	no	Active; manages hazardous wastes
5	Scrap Metal Storage Area	no	Active; manages nonhazardous wastes
6	Nonhazardous Waste Storage Area	no	Active; manages nonhazardous wastes
7	Aboveground Waste Oil Storage Tank	no	Active; manages nonhazardous wastes
8	Former Wastewater Treatment Plant	no	Not active; closed in 1981

Note:

[a] A RCRA hazardous waste management unit is one that currently requires or formerly required submittal of a RCRA Part A or Part B permit application.



SOURCE: MODIFIED FROM WELLMAN THERMAL SYSTEMS, INC. SKETCH RECEIVED BY PRC ON MAY 10, 1993

WELLMAN.DWG - 9/14/93 - RAO - 309-605032N48

TABLE 2

SOLID WASTES

Waste/EPA Waste Code[a]	Source	Solid Waste Management Unit
Spent TCE/F001	Vapor degreasing units	1 and 3
Spent Methyl Ethyl Ketone (MEK)/F003	Epoxy sealing unit	1 and 4
Waste Paint/NA	Paint booth	1 and 4
Spent Xylene/F005	Paint booth	1 and 4
Hydrochloric Acid/D002	Former plating area	1
Nitric Acid/D002	Former plating area	1
Sulfuric Acid/D002	Former plating area	1
Chromic Acid/D002	Former plating area	1
Calcium Chloride/NA	Former plating area	8
Ferric or Ferrous Chloride/NA	Former plating area	8
Nickel Sulfate/NA	Former plating area	8
Nickel Chloride/NA	Former plating area	8
Alkaline Cleaning Solution/NA	Former plating area	8
Waste Epoxy/NA	Epoxy sealing unit	6
Paint Filters/NA	Paint booth	6
Waste Oil/NA	Metal turning	2 and 7
Scrap Metals/NA	Metal turning	5

Note:

[a] Not applicable (NA) designates nonhazardous waste.

the waste oil for disposal. The facility produced 2,000 gallons of waste oil in 1984 and between 1,000 and 1,500 gallons of waste oil in 1992.

Four vapor degreasing units are presently used by the facility. According to the facility representative, the facility was using six vapor degreasers but removed two. The facility now operates a main vapor degreaser, a small vapor degreaser, and two medium-sized vapor degreasers. After a part is cut and welded, it is degreased. Degreasing involves inserting the part into one of the degreasers where it is covered with heated TCE. The TCE and oil then evaporate off. A cooling coil above the part then condenses the TCE and oil vapor, and the part is ready for subsequent processing. The liquid mixture is heated again later for reuse. The TCE is reused until it is removed from the degreaser. The main and small degreasers have their TCE changed every 6 to 10 weeks, while the two medium-sized degreasers have their TCE changed once a year. The spent TCE (F001) is accumulated in the Spent TCE SAA (SWMU 3), which consists of a 55-gallon drum. When a drum is full, it is transferred to the Hazardous Waste Storage Area (SWMU 1) and replaced with an empty 55-gallon drum. Spent TCE is kept in SWMU 1 for less than 90 days. It is picked up by Superior Oil of Indianapolis, Indiana, and transferred to Reclaimed Disposal Corporation of Connersville, Indiana, for disposal. In 1984, the facility produced 8,500 pounds of spent TCE; in 1992, it produced 460 pounds of spent TCE.

After degreasing, some parts are electroplated. From 1958 to 1979, GE operated an electroplating department on site. From 1979 to 1981, Wellman operated the nickel and chrome electroplating department. The wastewater from the plating lines was treated in an on-site wastewater treatment plant. The waste stream from the electroplating department included hydrochloric acid (D002), nitric acid (D002), sulfuric acid (D002), chromic acid (D002), calcium chloride, ferric or ferrous chloride, nickel sulfate, nickel chloride, and alkaline cleaning solution. The facility representative is unsure which liquid waste, ferric chloride or ferrous chloride, was produced. The Former Wastewater Treatment Plant (SWMU 8) process for the calcium chloride, ferric or ferrous chloride, nickel sulfate, nickel chloride, and alkaline cleaning solution consisted of pH reduction. Treated wastewater was discharged to a sump behind the Wastewater Treatment Building. The sump discharged to the sanitary sewer. The hydrochloric acid (D002), nitric acid (D002), sulfuric acid (D002), and chromic acid (D002) wastes were drummed and stored in the Hazardous Waste Storage Area (SWMU 1) until they were disposed of off site. The facility representative did not know where the plating acids were

disposed of off site. In 1981, Wellman contracted the plating operation to a local vendor and dismantled the plating machinery and the Former Wastewater Treatment Plant (SWMU 8). According to the Wellman facility representative, no further information is available about the plating department or wastewater treatment plant.

According to the facility representative, painting of parts probably began in 1955. Painting of parts takes place in the northeast corner of the facility. Paint is applied to the parts, and waste paint and paint filters are produced as nonhazardous waste streams. Paint filters are stored in the Nonhazardous Waste Storage Area (SWMU 6) directly east and adjacent to the Hazardous Waste Storage Area (SWMU 1). Paint filters are picked up by Superior Oil of Indianapolis, Indiana, and disposed of by special permit at Mason-Hayes Landfill in Fayette County, Indiana. Approximately 20 cubic yards of paint filters was produced in 1984. No information was available on recent paint filter waste production.

The paint lines are cleaned, as needed, with xylene solvent. The nonhazardous waste paint is combined with the spent xylene solvent. The combined waste paint (nonhazardous) and spent xylene solvent mixture (F005) is accumulated in one of the three Paint-Related Waste SAAs (SWMU 4). When a drum is full, it is transferred to the Hazardous Waste Storage Area (SWMU 1). The drums remain in SWMU 1 for less than 90 days, are picked up by Superior Oil, and transferred to Reclaimed Disposal Corporation, Connersville, Indiana, for disposal. Six thousand pounds of paint-related waste (which includes spent xylene solvent, spent methyl ethyl ketone (MEK), and nonhazardous waste paint) was produced in 1984, and 220 gallons in 1992. The facility representative did not know the individual quantities of spent xylene solvent or nonhazardous waste paint produced in any year.

Since approximately 1955, the facility has sealed together some of its heating parts with an epoxy. The epoxy is a 3M product consisting of a resin and hardener. The epoxy sealing machine is cleaned, as needed, with MEK. This process produces spent MEK (F003) and waste epoxy (nonhazardous). Spent MEK is accumulated in one of the three Paint-Related Waste SAAS (SWMU 4) until it is transferred to the Hazardous Waste Storage Area (SWMU 1). Spent MEK is picked up by Superior Oil and transferred to Reclaimed Disposal Corporation of Connersville, Indiana, for disposal. The waste epoxy is transferred to the Nonhazardous Waste Storage Area (SWMU 6), where

it is picked up by Superior Oil of Indianapolis, Indiana, and disposed of by special permit at Mason-Hayes Landfill, Fayette County, Indiana. Six thousand pounds of paint-related waste (which includes spent xylene solvent, spent MEK, and nonhazardous waste paint) was produced in 1984, and 220 gallons in 1992. The facility representative did not know the individual amount of spent MEK produced in any year. About 1,000 gallons of waste epoxy was produced in 1984. The facility representative did not know the amount of waste epoxy produced in 1992 but indicated that it was less than 1,000 gallons.

2.4 HISTORY OF DOCUMENTED RELEASES

This section discusses the history of documented releases to groundwater, surface water, air, and on-site soils at the facility.

According to the facility representative, in 1973 TCE from a faulty vapor degreaser leaked into the sanitary sewer. When parts were removed from the degreaser, they were not thoroughly dried, which allowed the TCE to drip onto the floor next to the drain. The TCE then accumulated in the small sump connected to the drain until a large water flow carried the TCE into the sanitary sewer. Wellman addressed this release by emptying and cleaning the sump near the degreaser and then covering the sump and drain with sheet metal (PRC 1993c). Wellman drained the degreaser and placed a floor retainer around the degreaser on three sides (PRC 1993c). According to the facility representative, the degreaser was put back into operation and Wellman employees make an effort to thoroughly dry the parts so that TCE does not drip onto the floor.

A release to groundwater and on-site soils occurred and was detected in the Contaminated North Well (AOC 3). According to the facility representative, in July 1991 the north well was tested and found to be contaminated with 8.48 parts per billion (ppb) of vinyl chloride and an unspecified quantity of cis-1,2-dichloroethene. The south well was found to be clean of contaminants. Wellman removed the Contaminated North Well from service on July 15, 1991 (PRC 1993c). Wellman documented this release and reported it to Indiana Department of Environmental Management (IDEM) in Wellman's quarterly report. Wellman did not discover the source of the contamination. Besides closing the north well, Wellman has continued monitoring the south well. It gave public notice to their employees and continued development of an effective sampling plan for the north well (PRC 1993c).

Between 1991 and 1993, Wellman installed about 30 monitoring wells to monitor any spread of contaminants. The facility representative indicated that the monitoring wells have shown no evidence of contamination.

On April 6, 1993, Wellman submitted to EPA Form R (Toxic Chemical Release Inventory Reporting Form). TCE was listed as fugitive or nonpoint air emissions. The amount of TCE released during 1992 was 9,900 pounds. The facility estimated this amount by the following equation (Wellman 1993):

$$A - (B + C) = D$$

Where:

A = Pounds of product TCE purchased

B = Pounds of waste TCE sent off site to Reclaimed Disposal Corporation

C = Amount of product TCE on hand December 31, 1992

D = Fugitive or nonpoint air emissions

TCE emissions occur whenever the vapor degreasing units are cleaned. The facility cleans the main and small vapor degreasers every 6 to 10 weeks. The facility cleans the two medium-sized degreasers once a year. According to the facility representative, there is a history of this type of release. The facility representative was only able to provide documentation for 1992 but indicated that in 1991, Wellman released 1,700 pounds of TCE as fugitive or nonpoint air emissions.

2.5 REGULATORY HISTORY

On August 7, 1980, Wellman submitted to EPA a Notification of Hazardous Waste Activity, which listed F002, F003, and F017 wastes (Wellman 1980a). On November 6, 1980, Wellman submitted a RCRA Part A permit application, which listed F002 and F003 wastes (Wellman 1980b). AnaMag submitted a separate Notification of Hazardous Activity and RCRA Part A permit application under EPA identification number IND 000 608 513. Wellman's application covered 35,200 gallons of container storage (SWMU 1) (S01) for F002 and F003 wastes.

On October 8, 1982, Wellman requested the Indiana State Board of Health (ISBH) and EPA to withdraw its interim status and change its status to generator only because Wellman no longer needed

to store hazardous wastes for greater than 90 days (Wellman 1982). Wellman currently stores wastes generated on site in containers for less than 90 days, in accordance with 40 Code of Federal Regulations (CFR) Part 262.34 (Wellman 1982). On October 27, 1983, EPA requested certification by an authorized Wellman representative and asked for a detailed explanation of why the Part A application permit should be withdrawn (EPA 1983). Wellman provided EPA with the information that was requested and a closure plan for the Hazardous Waste Storage Area (SWMU 1) on November 30, 1983 (Wellman 1983). On August 6, 1984, ISBH found Wellman's closure plan to be insufficient and requested additional information (ISBH 1984a). On August 9, 1984, Wellman submitted the additional information ISBH requested (Wellman 1984). ISBH approved Wellman's closure plan for SWMU 1 on December 13, 1984 (ISBH 1984b). On February 1, 1985, EPA approved Wellman's closure plan and changed their status to generator (EPA 1985).

The facility received a Letter of Warning (LOW) resulting from a RCRA Generator Inspection on February 6, 1985. The facility had four violations which included: personnel training and contingency plan requirement violations (ISBH 1985a). The facility responded to the LOW on February 18, 1985, by submitting a letter listing actions initiated to comply with the LOW violations (Wellman 1985). On April 1, 1985, ISBH found the facility to be in compliance (ISBH 1985b).

On December 5, 1986, the facility received a Notice of Violation (NOV) from IDEM (formerly ISBH) that noted seven violations. These violations involved storage of hazardous wastes for more than 90 days, hazardous waste containers not properly closed during accumulation, hazardous waste containers not in good condition, and four paperwork violations (IDEM 1986). The facility responded to the NOV on December 11, 1986 (Wellman 1986b). On March 31, 1987, the facility received a Notice of Inadequacy (NOI) from IDEM regarding Wellman's December 11, 1986, response to the NOV (IDEM 1987a). The facility responded to the NOI on April 6, 1987, and addressed inadequacies in the actions taken to comply with the paperwork violations (Wellman 1987a). Wellman submitted further documents to comply with the NOI. The facility received a Notice of Compliance (NOC) on August 14, 1987 (IDEM 1987b).

On June 18, 1987, the facility submitted a subsequent Notification of Hazardous Waste Activity that changed the amount of hazardous waste generated to less than 1,000 kilograms/month (Wellman

1987b). The facility requested a change of status from generator to small quantity generator. EPA approved the change to small quantity generator on July 16, 1987 (Wellman 1988).

The facility is not required to have operating air permits.

The facility is not presently required to have a National Pollutant Discharge Elimination System (NPDES) permit. It appears at some point, General Electric held NPDES permit number IN 002 1733 as indicated on an undated Wellman facility map. The facility representative had no information about this NPDES permit, but believed it was for the wire mill operations. The facility has one storm water permit. The storm sewer is located 845 feet northwest of Wellman, and the outfall is to the Little Blue River.

Five USTs were located on site. Two 15,000-gallon USTs (AOC 1) were put into service in 1955 for fuel oil storage by GE (Wellman 1989). Wellman used the USTs from 1979 until 1988. The USTs were constructed of steel and externally painted, but their internal protection is unknown. The piping was bare steel and the USTs had no secondary containment. Both USTs were closed and removed in 1988 by Carl Mohr Construction Company of Shelbyville, Indiana (PRC 1993b). The facility representative was unable to provide any documentation to show the USTs had not leaked. For that reason, the USTs have been designated an AOC.

GE owned and operated one steel 750-gallon UST (AOC 2) for gasoline storage from 1955 until 1979. Wellman owned and operated this UST from 1979 to 1992 when it was closed and removed by Hoosier Equipment Service, Inc., of Indianapolis, Indiana (PRC 1993b). The facility representative was unable to provide any other information about release controls for this UST. The facility representative was also unable to provide documentation to show the UST had not leaked. For that reason, the UST has been designated an AOC.

Wellman operated and owned two 1,000-gallon steel tank USTs used for gasoline and diesel fuel. The startup date for one 1,000-gallon UST was 1955 and the startup date for the other 1,000-gallon UST was 1981. Their external and internal protection is unknown. The piping to the USTs was bare steel. According to the facility representative, soil testing was done around the two 1,000-gallon USTs in December 1991 and revealed no detection of total petroleum hydrocarbons (Louis B. Astbury

Co., Inc. 1991). The two 1,000-gallon USTs were removed in January 1992 by Hoosier Equipment Service, Inc.

2.6 ENVIRONMENTAL SETTING

This section describes the climate; flood plain and surface water; geology and soils; and groundwater in the vicinity of the facility.

2.6.1 Climate

The climate in Shelby County is temperate with an average daily temperature of 54.1°F. The lowest average daily temperature is 28.9°F in January, and the highest average daily temperature is 75.0°F in July (Brownfield 1974).

The total annual precipitation for the county is 40.73 inches. The mean annual evaporation for the area is about 30 inches with an annual net precipitation of 3.7 inches (DOC 1968). The 1-year 24-hour rainfall is 2.3 inches (DOC 1963).

The prevailing wind is from the southwest except during the winter when the winds are predominantly from the west and northwest. Maximum average wind speed is 7 to 12 miles per hour (Brownfield 1974).

The annual average snowfall is 14 inches. The relative humidity varies on an average summer day from 40 to 90 percent. The winter relative humidity varies from 60 to 90 percent (Bruns and Uhl 1976).

2.6.2 Flood Plain and Surface Water

The facility is about 750 feet above mean sea level (USGS 1988). The Little Blue River is situated about 3/4 mile north of the facility, and Lewis Creek is situated about 3/4 mile southeast of the facility. The Little Blue River drains the northeastern part of the county. The facility is located in a Zone C flood plain (Wellman 1985). This is considered an area of minimal flooding.

Surface water drainage at the site is discharged to an on-site storm sewer inlet approximately 845 feet northwest of the facility. The storm sewer discharges to the Little Blue River.

No natural lakes occur in Shelby County; however, there are numerous gravel pits, farm ponds, and man-made lakes.

2.6.3 Geology and Soils

Shelby County is within the glaciated portion of the state. During the Pleistocene Epoch, glaciers deposited glacial drift consisting of clay, silt, sand, gravel, and boulder. These deposits vary in thickness from less than 5 feet in southeastern portions of the county to more than 200 feet in southwestern and northwestern parts of the county. When the glaciers melted, the meltwater created outwash plains and valleys by reworking the glacial deposits. The major aquifers of the county are located within the sand and gravel deposits (Bruns and Uhl 1976). Site-specific data is not available.

The bedrock formations that underlie the glacial drift consist of limestones and dolomites of Silurian or Devonian age. In the southeastern quarter of Shelby County, these limestones and dolomites are used to supply small to moderate amounts of water. Their potential as a water supply is less than that of the glacial drift found elsewhere in the county (Bruns and Uhl 1976).

2.6.4 Groundwater

Regional groundwater flow is to the west. Wells are the major source of drinking water in Shelby County. Water wells in Shelby County yield from 0 to 1,500 gallons per minute. Groundwater is obtained from wells both in the glacial drift (sand and gravel) and from the bedrock. Generally, water wells completed in the bedrock of Shelby County are not more than 250 feet deep to avoid decreasing quantity and quality. The highest potential well yields are in the glacial outwash sand and gravel deposits. Shelbyville has two municipal well fields. One is a field of four wells located near the Big Blue River in Township 12N, Range 6E, Section 17 (PRC 1993c). These wells are located downgradient of the facility. The other well field consists of one well in Township 13N, Range 7E, Section 30 (PRC 1993a). This well, about 8 miles from the facility, also is downgradient of the

facility. An estimated 20,000 people in Shelby County rely on private wells for their water supply (Bruns and Uhl 1976). More recent information on the number of private wells in Shelby County is not available (PRC 1993d).

2.7 RECEPTORS

Wellman occupies about 83 acres in an industrial, commercial, and residential area in Shelbyville, Indiana. Shelbyville has a population of about 15,050 (PRC 1993a). The facility is bordered on the north by State Road 44 and retail businesses; on the west by AnaMag, undeveloped land, and retail businesses; on the south by light industry and retail businesses; and on the east by residences and farmland. The nearest residence is about 1/4 mile east of the facility. Facility access is controlled by a chain-link fence.

The are two surface water bodies nearby. The Little Blue River, is located 3/4 mile north of the facility and is used for recreational and agricultural purposes. Lewis Creek is located 3/4 mile southeast of the facility. Its use, if any, is unknown.

Groundwater is used as an industrial, agricultural, municipal, and private water supply. A drinking water well is located on site.

According to information obtained from a U.S. Fish and Wildlife Wetlands map (1989), and from the USGS topographic map (1988), no forest preserves, no habitats of endangered species, and no other sensitive environments are located within 2 miles of the facility. Wetlands ranging in size from 1 to 10 acres are located along the Big Blue River about a 1-1/2 miles northwest of the facility and along the Little Blue River about 3/4 mile northwest of the facility.

3.0 SOLID WASTE MANAGEMENT UNITS

This section describes the eight SWMUs identified during the PA/VSI. The following information is presented for each SWMU: description of the unit, dates of operation, wastes managed, release controls, history of documented releases, and PRC's observations. Figure 2 shows the SWMU locations. All waste codes have been designated by Wellman.

SWMU 1 **Hazardous Waste Storage Area**

Unit Description: SWMU 1 is an outdoor, roofed shed with a 6-inch solid concrete floor. The shed is approximately 20 feet by 20 feet, and no drains are present. Wastes are stored in 55-gallon steel drums. There is a 4-inch steel dike on the front side. The other three sides have 4-foot high walls. Because the walls do not extend to the roof, there is about a 3-foot gap between the roof and the three sides. There also is a 2-foot steel ramp that extends over the 4-inch dike on the front side.

Date of Startup: This unit began operation in about 1955 when the facility's plating operation was active.

Date of Closure: IDEM approved this unit's closure in December 1984. It currently stores hazardous wastes for less than 90 days.

Wastes Managed: This unit manages spent TCE (F001), spent xylene (F005) combined with nonhazardous paint waste, and spent MEK (F003). This unit formerly managed waste hydrochloric acid (D002), waste nitric acid (D002), waste sulfuric acid (D002), and waste chromic acid (D002).

Release Controls: This unit is located on concrete and has a steel dike about 4 inches high in the front of the unit and 4-foot walls on the other three sides of the unit.

History of Documented Releases: No releases from this unit have been documented.

Observations: The unit contained two 55-gallon drums of a waste paint and spent xylene solvent mixture, listed as F003 waste. Both drums were sealed and in good condition. The unit also contained three open, empty drums and a one-gallon canister with unknown contents. There were a few 1/2-inch-wide cracks running through the center of the concrete floor, and plants were growing between the cracks. This unit is fenced in and secured with a chain across the front of the unit. PRC noted no evidence of release. See Photograph No. 9.

SWMU 2 **Waste Oil Storage Area**

Unit Description: The unit is an outdoor aluminum shed approximately 40 feet by 15 feet with a concrete floor. It was open-sided before 1990, but the facility has enclosed it. According to the facility representative, the roof of the shed was heightened at some point. Scrap metal containing lubricating oil is placed in hoppers or 55-gallon steel drums with holes in the bottoms. The waste oil drains into approximately 3-inch-high steel pans beneath the hoppers and the drums. The waste oil in the pans is transferred to the Aboveground Waste Oil Storage Tank (SWMU 7).

Date of Startup: The unit began operation in approximately 1955.

Date of Closure: The unit is active.

Wastes Managed: This unit manages waste oil and scrap metal which are nonhazardous. The waste oil is picked up for disposal by Superior Oil of Indianapolis, Indiana, and transferred to Reclaimed Disposal Corporation of Connersville, Indiana, for disposal. After the waste oil

has dripped off, the scrap metal is transferred to the Scrap Metal Storage Area (SWMU 5).

Release Controls: The unit contains a sloped floor with a closed sump. The drums and hoppers are in secondary containment steel pans.

History of Documented Releases: No releases from this unit have been documented.

Observations: The unit contained two hoppers and four open 55-gallon steel drums during the VSI. All of the containers were 3/4 full of scrap metal coated with oil. PRC noted that there was extensive oil staining on the floor of the unit. There was no dike around the perimeter of the unit, and a 1/2-inch gap is present between the building wall and the concrete floor. See Photographs No. 5 and No. 6.

SWMU 3 **Spent TCE SAA**

Unit Description: The facility uses one SAA for spent TCE. This unit consists of a closed 55-gallon, steel drum. The SAA is located indoors near the tube manufacturing operations. No floor drains are located near the SAA. The SAA sits on the concrete floor of the facility.

Date of Startup: The unit began operation in approximately 1986.

Date of Closure: This unit is active.

Wastes Managed: This unit manages spent TCE (F001) which is hazardous.

Release Controls: This unit is located indoors on concrete.

History of Documented Releases: No releases from this unit have been documented.

Observations:	This unit contained a 55-gallon steel drum with an unknown quantity of TCE. The drum was in good condition and closed. The concrete floor under the drum contained no cracks. PRC noted no evidence of release. See Photograph No. 10.
SWMU 4	**Paint-Related Waste SAAs**
Unit Description:	The facility uses three SAAs for paint-related wastes. Each unit consists of a closed, steel 55-gallon drum with open funnels. Each SAA is located indoors in a separate area of the facility. The three SAAs sit on the concrete floor of the facility. Floor drains are not located near any SAA area.
Date of Startup:	This unit began operation in approximately 1986.
Date of Closure:	This unit is active.
Wastes Managed:	This unit manages paint-related wastes including spent xylene (F005), spent MEK (F003), and waste paint (nonhazardous). When the drums are full, they are transferred to SWMU 1. The drums are picked up by Superior Oil trucks and transferred to Reclaimed Disposal Corporation for disposal.
Release Controls:	This unit is located indoors on concrete.
History of Documented Releases:	No releases from this unit have been documented.
Observations:	This unit contained one 55-gallon steel drum at each of three locations. PRC was shown only two paint-related waste SAAs. The drums contained unknown quantities of waste during the VSI. The drum near the paint booth had extensive paint staining on it. Paint

	stains were also noted on the floor near it. The other drum near the heavy assembly area was in good condition. Both drums contained open funnels on their tops and odors were emanating from them. The floor below each had no cracks. See Photographs No. 11 and No. 12.
SWMU 5	**Scrap Metal Storage Area**
Unit Description:	This unit is a concrete pad located outdoors to the west of Wellman. It contains three 10-cubic-yard, open, steel hoppers and one 20-cubic-yard, open, steel hopper. No drains are present.
Date of Startup:	This unit began operation in approximately 1955.
Date of Closure:	This unit is active.
Wastes Managed:	This unit manages nonhazardous scrap metal. The wastes are picked up by Kroot Scrap of Columbia, Indiana.
Release Controls:	This unit is located on a concrete pad.
History of Documented Releases:	No releases from this unit have been documented.
Observations:	The three 10-cubic-yard hoppers and one 20-cubic-yard hopper were approximately half full of various scrap metal during the VSI. The hoppers were in good condition. The concrete under the hoppers had a few small cracks. PRC noted no evidence of release. See Photograph No. 8.

SWMU 6	**Nonhazardous Waste Storage Area**
Unit Description:	This unit is a 20-foot by 20-foot concrete pad located outdoors adjacent to the east side of the hazardous waste storage area. It contains 55-gallon drums of nonhazardous waste and various unused items from the facility including shelves and wall units. No drain is present.
Date of Startup:	This unit began operation in approximately 1955.
Date of Closure:	This unit is active.
Wastes Managed:	This unit manages nonhazardous epoxy waste, paint filters, and various unused items from the facility such as shelves and wall units.
Release Controls:	This unit is located on a concrete pad. The pad is not bermed.
History of Documented Releases:	No releases from this unit have been documented.
Observations:	The container and concrete pad in this unit were in good condition. PRC noted no evidence of release. See Photograph No. 9.
SWMU 7	**Aboveground Waste Oil Storage Tank**
Unit Description:	This unit is a 1,000-gallon, aboveground, steel storage tank that is located outdoors on an approximate 15-foot by 15-foot concrete pad. This unit sits on two steel girders on the edge of the pad. A fence surrounds the unit. No drains are present.
Date of Startup:	It is unknown when this unit began operation.

Date of Closure:	This unit is active.
Wastes Managed:	This unit manages nonhazardous waste oil.
Release Controls:	This unit is located on a concrete pad. The concrete pad is not bermed.
History of Documented Releases:	No releases from this unit have been documented.
Observations:	No monitoring devices were present on this unit. Oil staining was present on the concrete pad and outside the fence on the soil. The concrete was free of cracks. See Photograph No. 7.
SWMU 8	**Former Wastewater Treatment Plant**
Unit Description:	This unit consisted of several tanks for adjusting the pH of wastewater from the electroplating operation. Treated wastewater was discharged to a sump that drained to the sanitary sewer. This unit was housed in an 8-foot by 8-foot building located west of the main facility. The treatment plant was disassembled in 1981 when the on-site electroplating operation was discontinued. The facility representative had no further information about this unit.
Date of Startup:	This unit began operation about 1955.
Date of Closure:	This unit was closed in 1981.
Wastes Managed:	This unit formerly managed wastewater from the plating lines. This wastewater consisted of liquid waste containing calcium chloride, ferric or ferrous chloride, nickel sulfate, nickel chloride, and alkaline cleaning solution. Wastewater treatment consisted of pH adjustment

	in a tank. After treatment, the wastewater was discharged to the sanitary sewer behind the treatment building.
Release Controls:	It is unknown what release controls this unit contained.
History of Documented Releases:	No releases from this unit have been documented.
Observations:	Only the building that housed this unit remains. The building is in poor condition and is now used for storing shelves and empty drums. PRC noted no evidence of release. See Photographs No. 1 and No. 2.

4.0 AREAS OF CONCERN

PRC identified three AOCs during the PA/VSI. These AOCs are discussed below; their locations are shown on Figure 2.

AOC 1 **Former Fuel Oil Underground Storage Tanks (UST)**

From 1955 until 1979, GE operated two 15,000-gallon steel USTs to store fuel oil. From 1979 until 1988, Wellman operated the USTs. The tanks were leased from the property owner AnaMag. The tanks were externally painted, but their internal protection is unknown. Their piping was bare steel. The USTs had no secondary containment. Both USTs were closed and removed in 1988 by Carl Mohr Construction Company in Shelbyville, Indiana. The facility representative was unable to provide any documentation to show the USTs were not leaking. No soil sampling was conducted during the removal.

AOC 2 **Former Gasoline UST**

According to the facility representative, Wellman owned and operated one steel 750-gallon UST used for gasoline storage. GE used the tank from 1955 to 1979 and Wellman used the tank from 1979 to 1992. This UST was closed and removed in 1992 by Hoosier Equipment Service, Inc., of Indianapolis, Indiana. The facility representative was unable to provide any other information about release controls for this UST. The facility representative was also unable to provide any documentation to show the UST was not leaking or soil samples were conducted at the time of removal.

AOC 3 **Contaminated North Well**

According to the facility representative, in July 1991, the north well was tested and found to be contaminated with 8.48 ppb of vinyl chloride and an unknown quantity of cis-1,2-dichloroethene. The south well was found to be clean of contaminants.

Wellman removed the contaminated north well from service. Wellman documented this release and reported it to IDEM in its quarterly report. Wellman did not discover the source of the contamination. Besides closing the north well, Wellman continues monitoring the south well, gave public notice to their employees and continued development of an effective sampling plan for the north well. Between 1991 and 1993, Wellman installed about 30 monitoring wells to monitor any spread of contaminant. The facility representative indicated that the monitoring wells showed no evidence of contamination.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The PA/VSI identified eight SWMUs and three AOCs at the Wellman facility. Background information on the facility's location; operations; waste generating processes and waste management practices; history of documented releases; regulatory history; environmental setting; and receptors is presented in Section 2.0. SWMU-specific information, such as each unit's description, dates of operation, wastes managed, release controls, history of documented releases, and observed condition, is presented in Section 3.0. AOCs are discussed in Section 4.0. Following are PRC's conclusions and recommendations for each SWMU and AOC. Table 3, located at the end of this section, summarizes the SWMUs and AOCs at the facility and the recommended further actions.

SWMU 1 **Hazardous Waste Storage Area**

Conclusions: This unit underwent closure and is currently used for less than 90-day storage. This unit is located outdoors on a concrete pad. It has 1/2-inch-wide cracks with vegetation growing in them. The potential of a release to groundwater and on-site soils is moderate because of the cracks in the concrete pad. The potential of release to air is low as long as the drums remain closed. The potential of release to surface water is low because the unit is located 3/4 mile from the nearest body of water.

Recommendations: The facility should repair the cracks in the concrete pad and continue managing containers to minimize releases to on-site soils and groundwater.

SWMU 2 **Waste Oil Storage Area**

Conclusions: This unit is inside a building that has a concrete floor with no visible cracks. There is a sloped floor to a closed sump, but the unit does not contain a berm. There is about a 1/2-inch gap between the walls and floor. A release that does not migrate to the sump would migrate outdoors. PRC noted extensive staining on the floor of this unit. The potential for release to on-site soils is high. The potential for release to groundwater is moderate. The potential for

release to air is low because the waste oil is not volatile. The potential for release to surface water is low because the containers are located indoors and approximately 3/4 mile from the nearest body of water.

Recommendations: PRC recommends cleaning this unit's floor and sampling soil around the perimeter of the building to determine whether soils are contaminated. A berm should be built around the interior of the unit or the 1/2-inch gap between the walls and floor should be filled in.

SWMU 3 **Spent TCE SAA**

Conclusions: SWMU 3 is located inside a building that has a concrete floor with no visible crack or gaps. The potential for a release to groundwater, surface water, and on-site soils from SWMU 3 is low because the unit is located indoors, and a spill would not be likely to leave the building and migrate outdoors. The potential for release to air from this unit is low because the TCE is stored in a closed container and is located indoors.

Recommendations: PRC recommends no further action at this time.

SWMU 4 **Paint-Related Waste SAAs**

Conclusions: SWMU 4 is located inside a building that has a concrete floor with no visible cracks or gaps. The potential for a release to groundwater, surface water, and on-site soils from SWMU 4 is low because the unit is located indoors and a spill would not be likely to leave the building and migrate outdoors. The potential for release to air from this unit is low because it is stored in a closed container and is located indoors.

Recommendations: PRC recommends no further action at this time.

SWMU 5 **Scrap Metal Storage Area**

Conclusions: SWMU 5 is located outdoors on a concrete pad with no visible cracks or gaps. The probability of a release to groundwater, surface water, air or on-site soils from SWMU 5 is low because the waste is inert, the containers are located on a concrete pad, and a spill would not be likely to leave the pad.

Recommendations: PRC recommends no further action at this time.

SWMU 6 **Nonhazardous Waste Storage Area**

Conclusions: SWMU 6 is located outdoors on a concrete pad with no visible cracks or gaps. The probability of a release to groundwater, surface water, air or on-site soils from SWMU 6 is low because the waste is inert, the containers are located on a concrete pad, and a spill would not be likely to leave the pad.

Recommendations: PRC recommends no further action at this time.

SWMU 7 **Aboveground Waste Oil Storage Tank**

Conclusions: This unit is located outdoors on the edge of a concrete pad that is free of cracks. The potential of a release to groundwater and on-site soils from this unit is high. This unit has no secondary containment, no overflow monitoring devices, and no berm around the area. An observed release was noted on the side of the unit, on the concrete pad, and in the gravel adjacent to the pad. The potential release to air from this unit is low because the waste oil is stored closed at all times.

Recommendations: A berm should be built around the concrete pad, and overflow monitoring devices should be attached to the unit. Soil sampling should be done around the perimeter of SWMU 7 to determine whether soil has been contaminated.

SWMU 8 **Former Wastewater Treatment Plant**

Conclusions: This unit has not been active since 1981. The unit consisted of several tanks and piping housed within a building. The tanks and piping were dismantled when the on-site electroplating operation stopped. The building is presently used for storage of inert materials from the facility. The past potential for release to groundwater, surface water, on-site soils, and air is low. The wastewater was stored indoors.

Recommendations: PRC recommends no further action at this time.

AOC 1 **Former Fuel Oil USTs**

Conclusions: These USTs were removed from the ground in 1988. The USTs were 33 years old, and did not have secondary containment. The facility could not document if the USTs had leaked. No soil sampling was done at the time of removal. Fuel oil was stored in both USTs. The former potential for release to surface water was low because the tanks were underground. The former potential for release to air was low because the tanks were underground and fuel oil is not volatile. The former potential for release to soils was moderate to high because of the ages and unknown integrity of the USTs. The potential for release to groundwater was moderate because of their ages and unknown integrity.

Recommendations: The soil area around AOC 1 should be sampled for possible contamination.

AOC 2 **Former Gasoline UST**

Conclusions: This UST was removed from the ground in 1992. The UST was 36 years old, and the facility representative could not say whether it had secondary containment or whether it had leaked. No soil sampling was done at the time of the removal. Gasoline was stored in the UST. The former potential for

release from the UST to air and surface water was low because the tank was underground. The former potential for release to soils was moderate to high because of the UST's age and unknown integrity. The potential for release to groundwater was moderate because of the UST's age and unknown integrity.

Recommendations: The soil area around AOC 2 should be sampled for possible contamination.

AOC 3 **Contaminated North Well**

Conclusions: A release to groundwater and on-site soils occurred at the Contaminated North Well (AOC 3). According to the facility representative, the north well was tested and found to be contaminated with 8.48 ppb of vinyl chloride and an unknown quantity of cis-1,2-dichloroethene. Wellman removed the contaminated north well from service. Wellman documented this release and reported it to IDEM in its quarterly report. Wellman did not discover the source of the contamination. Besides closing the north well, Wellman continues monitoring the south well. Wellman gave public notice to their employees and continued development of an effective sampling plan for the north well. Between 1991 and 1993, Wellman installed about 30 monitoring wells to monitor any spread of contamination. The facility representative indicated that the monitoring wells have shown no evidence of contamination. The potential for release to air and surface water is low from this contaminated well because it is underground.

Recommendations: Testing of the Contaminated North Well should be continued, and a regular testing program of the north well, the south well, and the on-site monitoring wells should be developed and implemented.

TABLE 3

SWMU AND AOC SUMMARY

SWMU	Dates of Operation	Evidence of Release	Recommended Further Action
1. Hazardous Waste Storage Area	1955 to present	No	Manage containers and repair pad cracks to minimize release to on-site soils and groundwater.
2. Waste Oil Storage Area	1955 to present	Oil staining on floor of unit noted during VSI	Conduct soil sampling around unit. Build a berm around unit or fill in 1/2-inch gap.
3. Spent TCE SAA	1986 to present	No	No further action.
4. Paint- Related Waste SAA	1986 to present	No	No further action.
5. Scrap Metal Storage Area	1955 to present	No	No further action.
6. Nonhazardous Waste Storage Area	1955 to present	No	No further action.
7. Aboveground Waste Oil Storage Tank	Unknown to present	Oil staining on concrete pad and gravel noted during VSI	Build a berm around the concrete pad, and attach monitoring devices to unit. Conduct soil sampling.
8. Former Wastewater Treatment Plant	1955 to 1981	No	No further action.

TABLE 3 (Continued)

SWMU AND AOC SUMMARY

AOC	Dates of Operation	Evidence of Release	Recommended Further Action
1. Former Fuel Oil USTs	1955 to 1988	No	Soil around former USTs should be sampled.
2. Former Gasoline UST	About 1956 to 1992	No	Soil around former UST should be sampled.
3. Contaminated North Well	Unknown to 1991	Yes	Comprehensive monitoring program should be developed and implemented.

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APPENDIX A

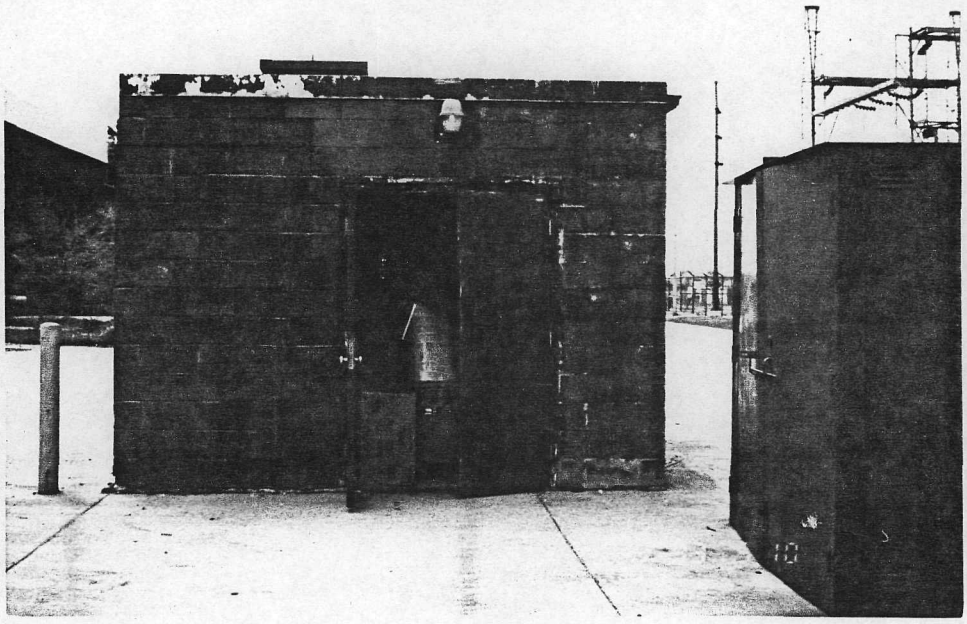
VISUAL SITE INSPECTION SUMMARY AND PHOTOGRAPHS

(Seven Pages)

VISUAL SITE INSPECTION SUMMARY

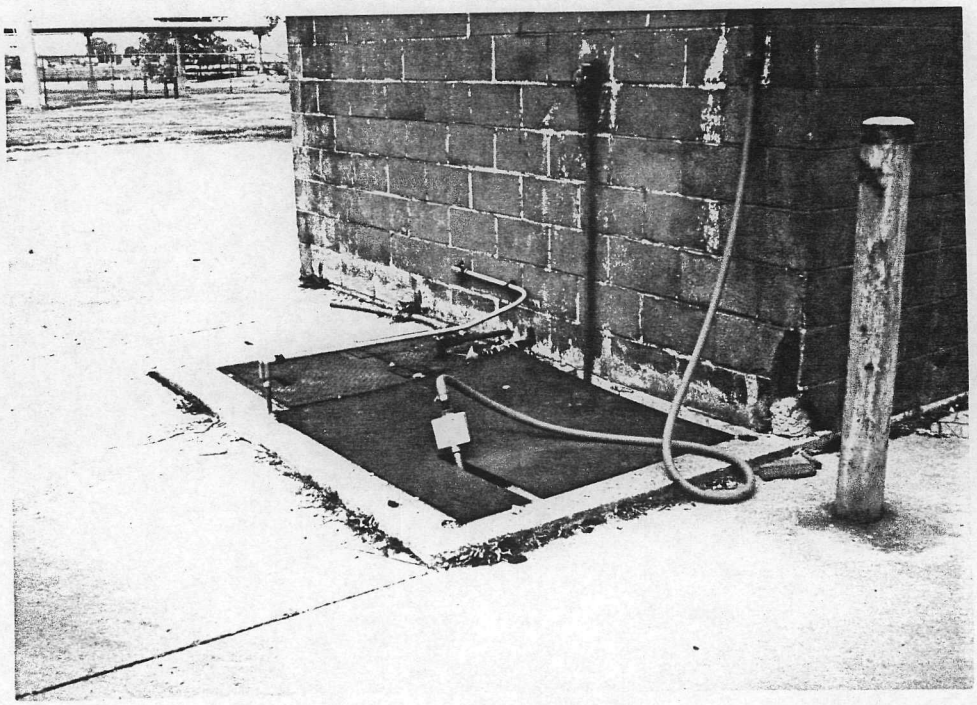
Wellman Thermal Systems, Inc.
Shelbyville, Indiana, 46176
IND 096 173 984

Date:	May 10, 1993
Primary Facility Representative:	Norman Willey
Representative Telephone No.:	317-392-5260
Additional Facility Representatives:	Frank D. Davis
Inspection Team:	Stacey Durley, PRC Lorraine Morris, PRC
Photographer:	Stacey Durley
Weather Conditions:	Sunny, calm, 80 °F
Summary of Activities:	The visual site inspection (VSI) began at 12:30 p.m. with an introductory meeting. The inspection team explained the purpose of the VSI and the agenda for the visit. Facility representatives then discussed the facility's past and current operations, solid wastes generated, and release history. Facility representatives provided the inspection team with copies of requested documents. The VSI tour began at 2:00 p.m. The inspection team viewed eight SWMUs and three AOCs. The tour concluded at 3:20 p.m., after which the inspection team held an exit meeting with facility representatives. The VSI was completed and the inspection team left the facility at 4:10 p.m.



Photograph No. 1
Orientation: West
Description: Former Wastewater Treatment Plant and storage locker.

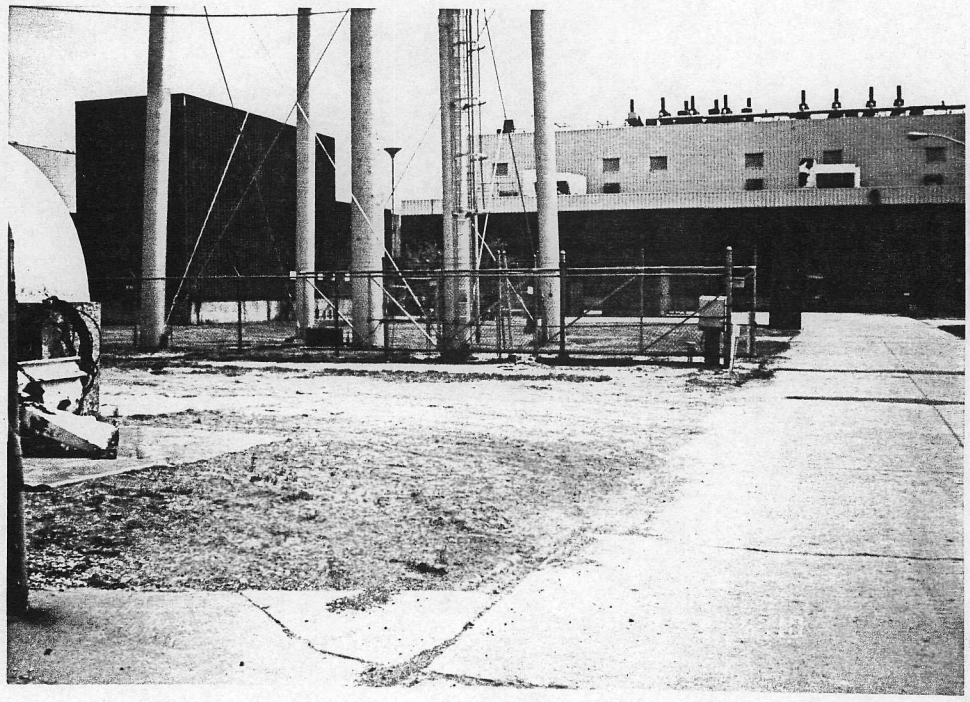
Location: SWMU 8
Date: 5/10/93



Photograph No. 2
Orientation: Northeast
Description: Sump and drain for wastewater treatment facility.

Location: SWMU 8
Date: 5/10/93

Photograph No. 3 Location: AOC 1-3
Orientation: West Date: 5/10/93
Description: In the background are aboveground fuel tanks. In the foreground are former underground storage tanks.



Photograph No. 4 Location: West of Facility
Orientation: South Date: 5/10/93
Description: AnaMag enamel wire facility.

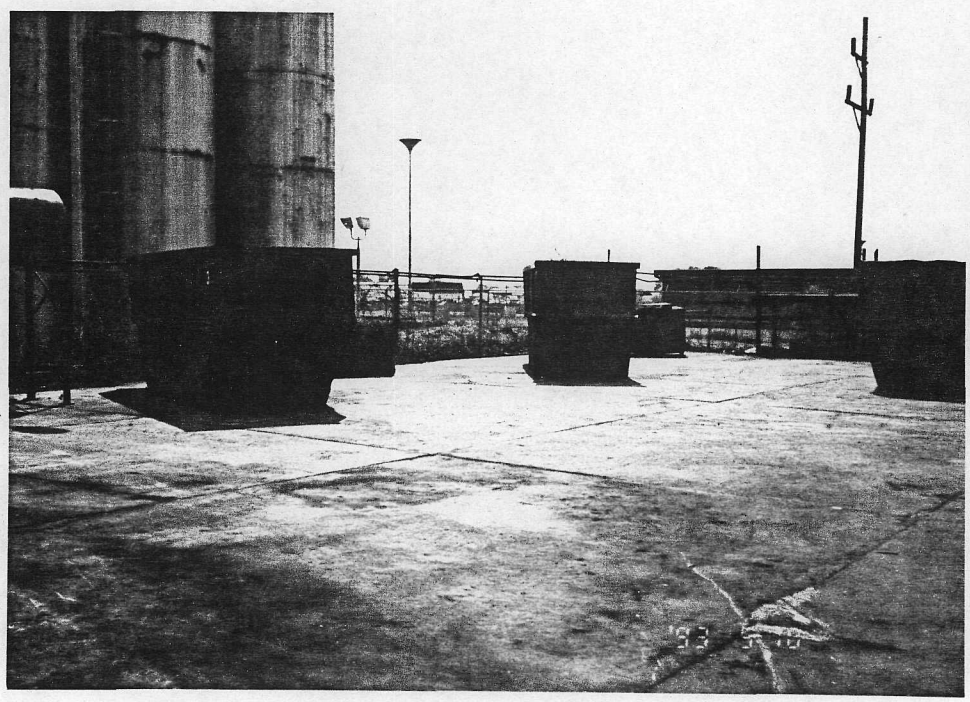
Photograph No. 5
Orientation: West
Description: Drums and hopper in waste oil storage area.

Location: SWMU 2
Date: 5/10/93

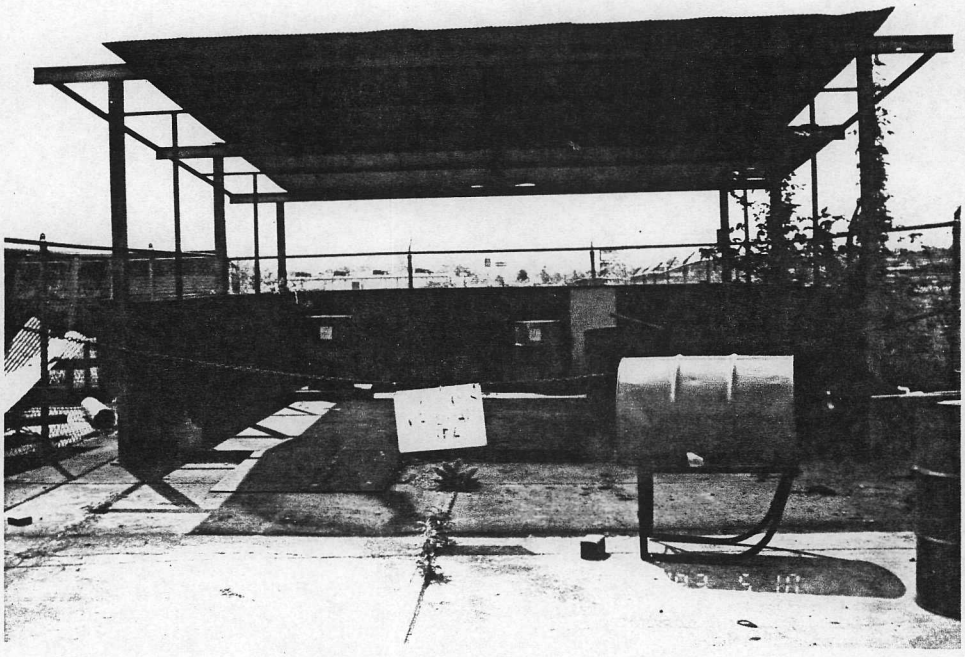
Photograph No. 6
Orientation: West
Description: Closeup of closed sump and drums in waste oil storage area.

Location: SWMU 2
Date: 5/10/93

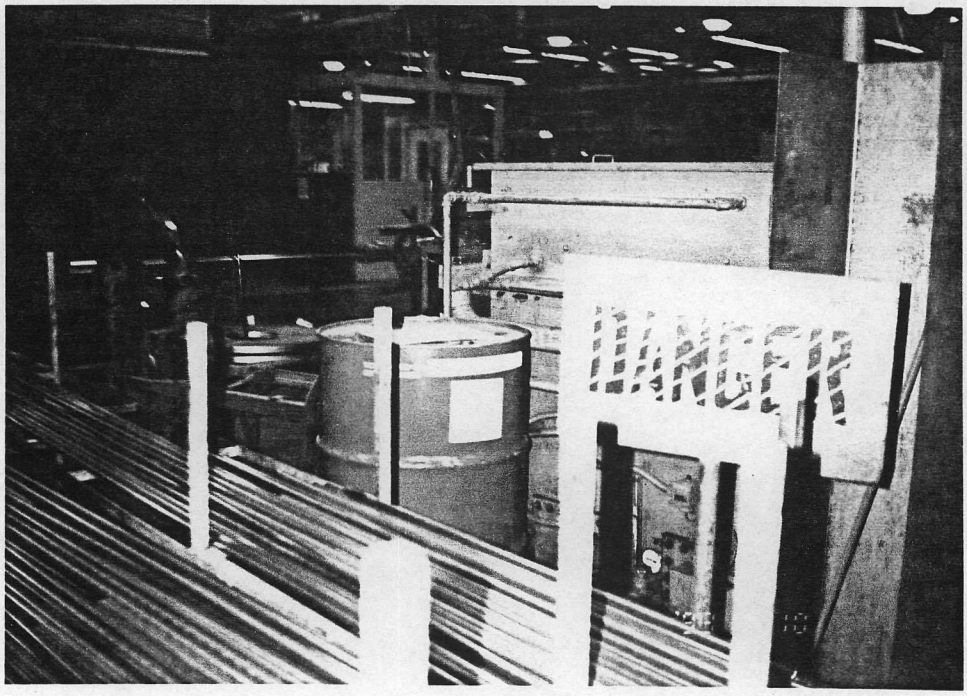
Photograph No. 7 Location: SWMU 7
Orientation: South Date: 5/10/93
Description: One thousand-gallon aboveground tank for waste oil. Soil staining is present to the south of the tank and on the concrete pad.



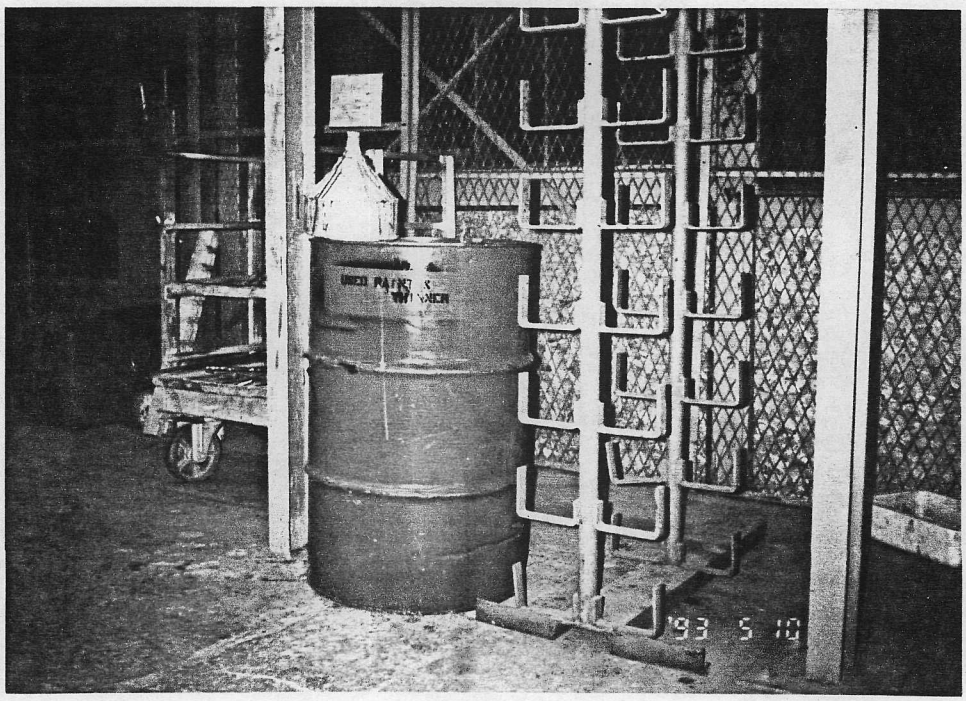
Photograph No. 8 Location: SWMU 5
Orientation: West Date: 5/10/93
Description: In the foreground are the hoppers and concrete pad of the scrap metal storage area. In the background are the aboveground fuel tanks.



Photograph No. 9 Location: SWMU 1 and 6
Orientation: West Date: 5/10/93
Description: In the foreground is a drum in the nonhazardous waste storage area. In the background is the hazardous waste storage area containing two drums of paint-related wastes and three empty drums.

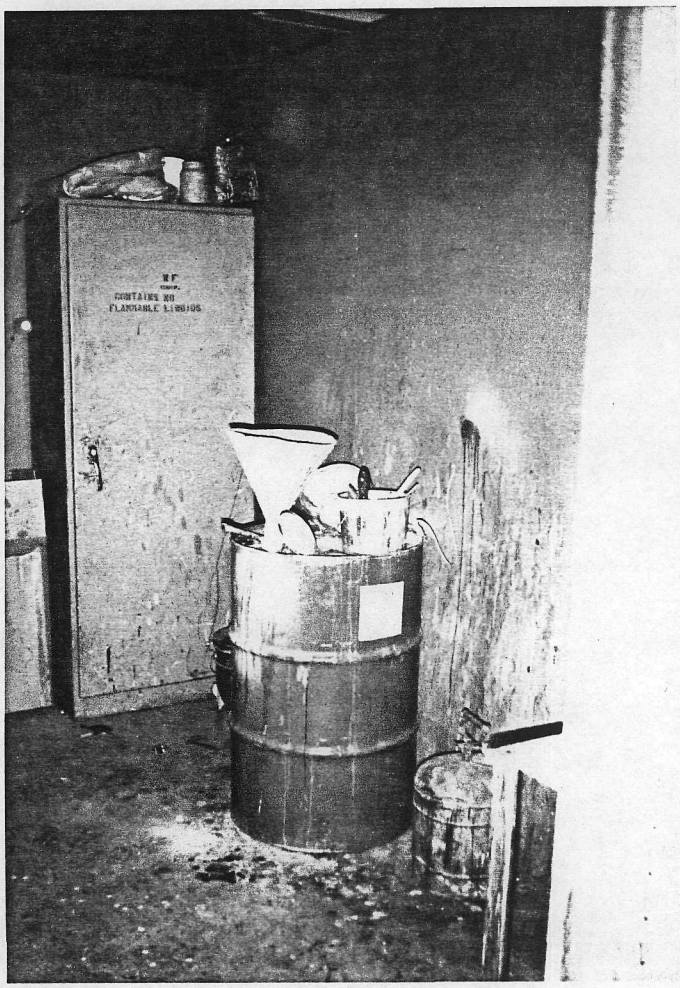


Photograph No. 10 Location: SWMU 3
Orientation: South Date: 5/10/93
Description: A satellite accumulation area for TCE located next to a vapor degreaser.



Photograph No. 11
Orientation: East
Description: An SAA for paint-related wastes.

Location: SWMU 4
Date: 5/10/93



Photograph No. 12
Location: SWMU 4
Orientation: North
Date: 5/10/93
Description: An SAA for paint-related wastes.

APPENDIX B
VISUAL SITE INSPECTION FIELD NOTES
(8 Pages)

FOREWORD

During the visual site inspection (VSI), field notes were taken by Lorraine Morris of PRC. The facility representative gave PRC the best information he had available at the time. Subsequent to the VSI, the facility representative provided PRC with more accurate and detailed information about various processes, waste management practices, and ownership issues. The following list addresses the information given at the VSI and subsequent accurate information provided by the facility.

VSI INFORMATION	ACCURATE FACILITY INFORMATION
GE constructed facility in 1953.	GE constructed facility in 1955.
Wellman, Ltd., bought facility 1978.	Wellman, Ltd., bought facility in 1979.
Plating had stopped for about 15 years.	Plating had stopped for 12 years.
Hazardous wastes are disposed of at Reclaim Energy, Inc., of Hunters-ville, Indiana.	Hazardous wastes are disposed of at Reclaimed Disposal Corporation of Connersville, Indiana.
Wastewater treatment plant removed in 1978.	Wastewater treatment plant removed in 1981.
Two Spent TCE SAAs at facility.	One Spent TCE SAA at facility.
Two Paint-Related Waste SAAs at facility.	Three Paint-Related Waste SAAs at facility.
Status of 750-gallon UST unknown.	750-gallon UST removed in 1992.

(1)

5/10/93

Wellman
Lorraine Morris PRC
Stacey Dudley "
North Willey Wellman

PRC on site 12:30 pm

Wellman has been at site for 14 yrs
Wellman Limited
↓
Wellman Thermal

1953 fac constructed
to 1978 GE

1978 → 1988 Well Limited
1988 → present Well Thermal

(2)

2 separate business on property

on site
Anamag - Wellman
leased from - Anamag

Anamag produced enamel wire
out of business ≈ 8-10 yrs

Wellman ~ 200,000 sq ft main bldg
bldg has several additions
boiler house separate

≈ 85 acres

(3)

own water supply
ground water well

≃ 200 employees
1 shift - 8 hours

- industrial heating devices
glow plugs for automotive industries replaces

- space heaters

- heat transfer system for oil industry
to customers spec.

- water & oil heaters
for industrial use

(4)

- baseboard heaters for RR
+ air transport

- metal sheath heating unit

- large ind. furnaces
heat treating

various metal
coils
sheet
tubing
powdered

cut + weld - to fabricate product
no plating

- plating occurred during GE - gone for ≃ 15 yrs.

(7)

WWTU — when plating active
removed ≈ 15 yrs

4 SAAs
2 trichlor
2 paint

- outdoor CSA
- oil & scrap metal CSA

2 or 3 1,000 gal UST
fuel oil for boiler
removed ≈ 10 yrs

1 gas UST 1,000 gal
removed ≈ 2-3 yrs
+
1 diesel UST 1,000 gal

(8)

CSA ≈ 15 yrs

release to san sewer
≈ 10 yrs
from leaking degreaser

groundwater contamination
Vinyl Chloride
in drinkwater on site
7/91
North well

municipal wellfield
≈ 8 miles due west
new field - old contamination
of phenol

(9)

Fac Tour
≈ 2:00 pm

photo 1 former plating area

photo 2 former WWTU

photo 3 sump area w/ WWTU

photo 4 former UST area

photo 5 wall of Aramag

photo 6 oil CSA – since 1950 >
↑ 3 yrs enclosed
≈ 40'x15' (always roofed – open sided
appears to have heightened

(10)

photo 7 close up of oil sumps

photo 8 AST for waste oil
oil stains observed thru out
CSA + AST

photo 9+10 Scrap metal Area
3 10 cu yd LTM
1 20 to 25 cu yd LTM

photo 11 Hzy Waste CSA ≈ 20'x20'
2 55 gal drum
F003 3-4-93
paint waste

photo 12 former
Aramag CSA (?)
≈ 150' x 8'
sump length of CSA
< 15 yrs old

(11)

2 GE
- Ind Heat Div
Wellman
Wire Div
Avanag

1 Storm Water Permit

photo 13 SAA Trichlo
2 degreaser unit

photo 14 SAA
paint related

photo 15 SAA
paint related

(12)

several monitoring wells
observed thru out fac. tours
Per Mr. Willey ≈30
approx w/in 3 yrs.

fac tours end ≈ 3:20 pm

USTs
2 ⌀ 15,000 gal fuel oil
removed 1988
(steel) back up for
boiler

2 ⌀ LTM
LTM removed 11/92 by Hoosier Equip Service
3 ⌀ USTs (gas + diesel
1-750 gal ~~diesel fuel~~ gas LTM
1-1000 gal gas
1-1000 gal diesel fuel

(13)

317/392-3724
Sue Bosey
+ Ron
work for Anamag

Jim Cherry CEO
(owner of Wellman)

317/392-~~5231~~ 5311

PRC off site 4:10pm

S - light industry + retail
E - residential + farmland
W - undeveloped land + retail

(14)

N - St Hwy 44 + Commerce

Lorraine T. Morris 5/10/93